currently pending differ from those reviewed by the Examiner. None of the references cited by the Examiner are believed to anticipate the claims or render them obvious as amended by the Second Preliminary Amendment.

Applicant has added new claims 44-53. Claims 44-46 are dependent from the claims altered by the Second Preliminary Amendment. Claims 47-53 resemble originally filed claims 31 and those dependent therefrom except that the claim 47 requires that the implant matrix material be a hard tissue implant material as set forth in originally filed claim 41.

No new matter is believed to have been added, support for describing the biocompatible matrix in claim 47 (based on original claim 31) as a hard tissue implant material is found at the specification at page 5, lines 12-17. Here, the biocompatible matrix is described as either one for soft tissue implants or one for hard tissue implants.

Examples of a biocompatible matrix comprising hard tissue implant material are set forth in the specification at page 3, line 25 though page 4, line 9. It states that:

> The hard tissue implant material preferably includes polymethyl methacrylate. Alternative hard tissue implant materials that may be mixed with the radiopaque particles include hydroxyapatite, various formulations of biocompatible calcium phosphates, biocompatible calcium sulfates, demineralized and/or mineralized bone particles, polymer based implants including polyglycolic acid and or polylactic acid compounds, collagen and/or collagen derivative preparations alone or in combination with other biomaterials, chitin and/or chitosan preparations, bioglasses including oxides of silicon, sodium, calcium and phosphorous and combinations thereof, and other known materials which are acceptable for use as hard tissue implant materials including osteogenic and osteoinductive compositions, and combinations thereof.

As would be readily understood by one with skill in the art and evidence by the examples provided, a "hard tissue" implant material is a composition that is solid or sets to become solid.

Attached hereto is a marked version of the Abstract and claim 37 showing the changes made by this Amendment; the attachment is captioned **VERSION WITH MAKRINGS TO SHOW CHANGES**.

Terminal Disclaimer

Applicant has submitted a terminal disclaimer herewith, executed by the undersigned. It has been filed merely to expedite allowance of the present application and is not intended to be an admission that the subject claims are not patentably distinct from one another. Applicant reserves the right to assert the validity of either set of claims in the event that one or more is invalidated or otherwise held unpatenable.

Rejections under 35 USC §102

Ersek, et al.

As amended in the Second Preliminary Amendment referenced above, Ersek, *et al.* fails to anticipate the subject matter of claims 33 and 35-39. These claims describe a composition including a liquid contrast agent, no such disclosure is presented in the reference.

Ersek, *et al.* also fails to anticipate the subject matter of claims 47-54 since it does not actually disclose a hard tissue implant matrix as required by claim 47, upon which claims 48-53 depend. Whereas at column 3, lines 52-60 the reference discloses using different material for it's implantable microparticles (including material for when implanting particles at a "firm area . . . such as connective tissue or the like") it does not disclose a hard tissue implant matrix or vehicle to carry the "hard substances" of which the particles themselves are made. Rather, the only vehicles described in Ersek, *et al.* are saline, PVP and poylysaccharide lubricant. See col. 10, lines 11-15.

These are distinguishable from hard tissue implant matrix materials in general – and specifically from the examples Applicant sets forth. At page 3, line 25 through page 4, line9, it is stated that:

> The hard tissue implant material [*i.e. the matrix material set forth in claim 44*] preferably includes polymethyl methacrylate. Alternative hard tissue implant materials that may be mixed with the radiopaque particles include hydroxyapatite, various formulations of biocompatible calcium phosphates, biocompatible calcium sulfates, demineralized and/or mineralized bone particles, polymer based implants including polyglycolic acid and or polylactic acid compounds, collagen and/or collagen derivative preparations alone or in combination with other biomaterials, chitin and/or chitosan preparations, bioglasses including oxides of silicon, sodium, calcium and phosphorous and combinations thereof, and other known materials which are acceptable for use as hard tissue implant materials including osteogenic and osteoinductive compositions, and combinations thereof.

PVP (*i.e.*, polyvinylpyrrolidone), saline and poylysaccharide lubricant are all non-structural matrices suited for use as a vehicle in soft tissue implantation, not implantation in hard tissue such as bone. They do not set-up hard as do the exemplary compositions cited by Applicant.

Wallace, et al.

This reference fails to disclosed particles that are individually viewable under fluoroscopy – i.e. having a size in the range of between about 350μ and 2200μ as required by claim 40 as amended by the Second Preliminary Amendment filed by Applicant. Accordingly, claim 40 and those dependent therefrom are believed to be novel with respect to the reference.

Rejections under 35 USC §103

Ersek, et al in view of Lawin, et al.

Claim 34 was rejected as obvious over Ersek, *et al.* in view of Lawin, *et al.* Neither reference is pertinent to the subject matter of any of the claims. By virtue of the amendment to claim 33 in the Second Preliminary Amendment, claim 34 requires the addition of liquid contrast agent. The combination of radiopaque particles and liquid contrast agent is not presented, nor fairly suggested, in either reference.

As for new claims 47-54, these require a matrix of hard tissue implant material. Like Ersek, *et al.*, Lawin, *et al.* neither discloses, nor fairly suggests, utilizing a hard tissue implant matrix. It merely discloses using particles in a lubricative suspension, solution or other fluid or gel for deposit in soft tissue.

Wallace, et al. in view of Ersek, et al.

Claim 40 now recites the size range of particles rejected in connection with claim 41. In rejecting the subject matter of claim 41, it was asserted that it would have been obvious to include particles of the size disclosed in Ersek, *et al.* in the composition of Wallace, *et al.* The reasoning set forth was that such a substitution of the small particles in Wallace, *et al.* for larger particles would limit migration or increase visibility.

Despite the reasoning provided, it is believed that there is no proper motivation or suggestion to combine the references. According to MPEP section 2143.01, where the proposed combination would render the referenced invention being modified unsatisfactory for its intended purpose, then there is no suggestion or motivation to make the proposed modification. See, *In re Gordon*, 733 F.2d 900 (Fed. Cir. 1984). The reference repeatedly calls for the use of particles of about 10μm or less in size in order to maintain a homogenous composition – the very nature of the composition being the cause for the "unexpected and surprising results" it proffers at col. 3, line 24-34 in support of patentability. Applicant acknowledges that the Examples (see col. 9 and 10) make use of 43μ size contrast agent. However, this size particle is much smaller than the minimum 350μ size claimed for individually viewable particles in amended claim 40 and therefore clearly distinguishable.

In addition, whether or not the motivation to combine the references provided by the Examiner is proper, the combination itself is not. Wallace, *et al.* clearly teaches away from utilizing particles in the size range taught by Applicant. See MPEP 2145 D[2], citing *In re*

Grasselli, 713 f.2d 731 (Fed. Cir. 1983). It teaches producing a homogenized suspension of particles for use in effecting male sterilization. *See, e.g.*, col. 7, lines 26-32. To keep the particles in suspension as required, the reference teaches utilizing small particles preferably those about "10μm or less and more preferably at from about 1 to about 5μ (e.g. an average size of about 2[)]". Col. 7, lines 30-32. In fact, Wallace, *et al.* teaches the removal of large particles until such a desired size range of particles is reached. The text from col. 6, line 61 to col. 7, line 10 describes a fractionation procedure to remove larger contrast particles that sink faster than those in the desired size range. As such, use of large particles, as claimed, clearly runs contrary to the teachings of Wallace, *et al.*

For any of the foregoing reasons, it is believed that the claims presently on file are patentable over Wallace, *et al* in view *of Ersek, et al.*

IN CLOSING

Applicant submits that all of the claims are in condition for allowance, which action is requested. If the Examiner finds that a telephone conference would expedite the prosecution of this application, please telephone the undersigned at the number provided.

The Commissioner is hereby authorized to charge any underpayment of fees associated with this communication, including any necessary fees for extensions of time, or credit any overpayment to Deposit Account No. 50-0815.

Respectfully submitted,
BOZICEVIC, FIELD & FRANCIS LLP

Date: 2/25/02

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VERSION WITH MARKINGS TO SHOW CHANGES MADE

IN THE ABSTRACT

An enhanced visibility composition for implantation from a remote source, so that the composition can be readily observed under fluoroscopy or other imaging techniques is disclosed. The compositions include a biocompatible matrix, such as a hard tissue implant material for example, and radiopaque particles mixed in the matrix. The radiopaque particles have a particle size between about 120μ and 2200μ, more preferably between about 350μ and 2200μ, even more preferably between about 450μ and 1600μ, and most preferably between about 570μ and 1150μ. Preferably the hard tissue implant and the radiopaque particles are formed or prepared in a slurry. Optionally, the enhanced visibility composition may further include additional radiopaque particles or contrast particles mixed in with the composition, which have a particle size between about 120μ and 350μ, preferably between about 120μ and 250μ.

IN THE CLAIMS

37. (Amended) The injectable composition of claim 36, further comprising: [contrast] radiopaque particles for contrast having a particle size between about 120μ and 350μ.

38. (Amended) The injectable composition of claim 36, wherein said radiopaque particles hav[ing]e a particle size between about 450μ and 1600μ.